

THAT WHICH IS CLAIMED:

1. A lid for a container, comprising:

a center panel having an outer perimeter;

5 a rim portion encircling the center panel, the rim portion defining a groove for receiving an upper edge of the container so as to secure the lid to the upper edge, the groove being defined between radially spaced inner and outer walls; and

10 a hinge portion connecting the rim portion to the outer perimeter of the center panel, the hinge portion allowing the center panel to be moved axially relative to the rim portion between an unsealing position and a sealing position, the center panel in the sealing position causing the rim portion to be moved radially outwardly to urge the inner wall of the groove against an inner surface of the container adjacent the upper edge thereof;

15 wherein at least portions of the center panel and rim portion comprise a relatively less-compliant polymer material and the hinge portion comprises a relatively more-compliant polymer material.

2. A lid according to claim 1, wherein the relatively less-compliant polymer material is a thermoplastic material.

20 3. A lid according to claim 2, wherein the relatively more-compliant polymer material is an elastomer.

4. A lid according to claim 1, wherein a container-engaging surface of the rim portion is formed of a pliable material that is more compliant than other portions of the rim portion so as to promote sealing with the inner surface of the container.

25 5. A lid according to claim 4, wherein the pliable material of the container-engaging surface is an elastomer.

6. A lid according to claim 1, wherein axial movement of the center panel toward the container converts the lid into the sealing position and axial movement of the center panel away from the container converts the lid into the unsealing position.

5 7. A lid according to claim 1, wherein axial movement of the center panel away from the container converts the lid into the sealing position and axial movement of the center panel toward the container converts the lid into the unsealing position.

8. A lid according to claim 1, wherein the center panel includes a pull feature to facilitate axial movement of the center panel.

9. A lid according to claim 1, wherein the hinge portion includes two flex points.

10 10. A lid according to claim 1, wherein the inner wall and the outer wall are both generally axially oriented.

11. A lid according to claim 10, wherein the inner wall and the outer wall are both substantially perpendicular to the center panel in the sealing position and in the unsealing position.

15 12. A molded cap for a container, comprising:

a center panel having an outer perimeter;

a rim portion encircling the center panel, the rim portion defining a groove for receiving an upper edge of the container so as to secure the cap to the upper edge, the groove being defined between radially spaced inner and outer walls;

20 a hinge portion connecting the rim portion to the outer perimeter of the center panel, the hinge portion allowing the center panel to be moved axially relative to the rim portion between an unsealing position and a sealing position, the center panel in the sealing position causing the rim portion to be moved radially outwardly to urge the inner wall of the groove against an inner surface of the container adjacent the upper edge thereof; and

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a flexible barrier membrane integrated into the cap to improve the barrier properties of the cap.

13. A molded cap according to claim 12, wherein the flexible barrier membrane includes a lower foil layer and an upper polymer layer for joinder with the mold material.

5 14. A molded cap according to claim 13, wherein the cap is molded onto the upper polymer layer of the flexible barrier membrane such that the lower foil layer of the flexible barrier membrane defines a container-facing surface of the cap.

15. A molded cap according to claim 13, wherein the flexible barrier membrane extends radially to the groove of the rim portion.

10 16. A molded cap according to claim 12, wherein the flexible barrier membrane is a metallized film.

17. A molded cap according to claim 16, wherein the metallized film is a metal foil.

15 18. A molded cap according to claim 12, wherein the cap is formed by a two shot mold process such that the center panel and the rim portion comprise a relatively less-compliant polymer material and the hinge portion comprises a relatively more-compliant material.

20 19. A molded cap according to claim 12, wherein a container-engaging surface of the rim portion is formed of a pliable material that is more compliant than other portions of the rim portion so as to promote sealing with the inner surface of the container.

20. A molded cap according to claim 12, wherein axial movement of the center panel toward the container converts the lid into the sealing position and axial movement of the center panel away from the container converts the lid into the unsealing position.

25 21. A molded cap according to claim 12, wherein axial movement of the center panel away from the container converts the lid into the sealing position and axial

movement of the center panel toward the container converts the lid into the unsealing position.

22. A molded cap according to claim 12, wherein the center panel includes a pull feature to facilitate axial movement of the center panel.

5 23. A molded cap according to claim 12, wherein the hinge portion includes two flex points.

24. A molded cap according to claim 12, wherein the inner wall and the outer wall are both generally axially oriented and are both substantially perpendicular to the center panel in the sealing position and in the unsealing position.

10 25. A method of manufacturing a lid for a container, comprising the steps of:  
injecting a first mold material into a mold to form a center panel having an outer  
perimeter and to form a rim portion encircling the center panel;  
injecting a second mold material different from the first mold material into the  
mold to form a hinge portion connecting the rim portion to the outer  
15 perimeter of the center panel; and  
hardening the first mold material and the second mold material;  
wherein after hardening of the lid, the hinge portion allows the center panel to be  
moved axially relative to the rim portion.

20 26. A method according to claim 25, wherein the first mold material is a relatively less-compliant material than the second mold material.

27. A method according to claim 26, wherein the injecting a first mold material step comprises injecting a thermoplastic material and injecting a second mold material step comprises injecting an elastomer.

25 28. A method according to claim 27, wherein the rim portion is formed to have a groove for receiving an upper edge of the container, and wherein the injecting a second mold material step forms a container-engaging surface of the groove.

29. A method according to claim 25, wherein the center panel is formed to have a pull feature.

30. A method according to claim 25, wherein the hinge portion is formed to have two flex points.

5 31. A method of manufacturing a molded cap for a container, comprising the steps of:

positioning a flexible barrier membrane in a mold;

injecting a mold material into the mold to form a center panel having an outer perimeter, a rim portion encircling the center panel, and a hinge portion

10 connecting the rim portion to the outer perimeter of the center panel; and hardening the mold material to form the cap so that the flexible barrier membrane is integrated into the cap;

wherein after hardening of the lid, the hinge portion allows the center panel to be moved axially relative to the rim portion.

15 32. A method according to claim 31, wherein the flexible barrier membrane includes a lower foil layer and an upper polymer layer for joinder with the mold material.

20 33. A method according to claim 32, wherein the injecting step is an injection of the mold material onto the upper polymer layer of the flexible barrier membrane such that the lower foil layer of the flexible barrier membrane defines a container-facing surface of the cap.

34. A method according to claim 31, wherein the injecting step is an injection of the mold material onto a top surface of the flexible barrier membrane such that the flexible barrier membrane extends radially to a container-engaging surface of the rim portion.

25 35. A method according to claim 31, wherein the positioning step includes a flexible barrier membrane that is a metallized film.

36. A method according to claim 31, wherein the center panel is formed to have a pull feature.

37. A method according to claim 31, wherein the hinge portion is formed to have two flex points.